CHAPTER 4

SUSTAINMENT OF AVIATION OPERATIONS

Sustainment of aviation operations is a command responsibility critical to the survival of the force and the conduct of combat operations. Sustainment is the responsibility not only of the aviation commander, but of commanders throughout the chain of command. Aviation commanders sustain their forces through four fimdamental elements: Force protection, logistical support, maintenance support, and personnel support. This chapter discusses these elements as well as risk management (a subset of force protection).

4-1. FORCE PROTECTION

a. The most critical element in the sustainment of aviation operations is *force protection*. It must be clearly understood by all commanders that aviation forces should be augmented with security forces to assist in protection of assembly areas and forward arming and refueling points (FARPs). Although the immediate consideration in force protection will be the security of the forces, it must also be understood that force protection applies to safety, maintenance, and the environment.

b. Aviation forces must be positioned at sites where they can be given adequate security support from ground commanders. This can be accomplished in several ways as follows:

- Revetment—bunker–base camp techniques such as used in Vietnam.
- Secure airfields away from hostile areas.
- At laager and battle position sites protected by distance from enemy forces because of the advance of our own ground combat elements.

c. The same considerations for risk analysis and accident prevention that would be applied at home station during peacetime operations also are critical to the protection of the force in combat operations. Maintenance procedures, crew rest, safety at all levels, increased operational tempo (OPTEMPO), increased demands on supply parts, increased maintenance workload, and environmental considerations must be constantly evaluated.

d. During combat operations, aviation forces derive their protection from the proper use of tactics, techniques, and procedures. Proper use of these elements will allow the aircraft to arrive safely on station to engage the enemy.

4-2. RISK MANAGEMENT

a. Another critical element of force protection is *risk management*. Risk management identifies actions that could help commanders eliminate, reduce, or minimize risk while maximizing force protection.

b. The risk management process identifies hazards that present the highest risk to the mission or operation. The process begins with mission analysis. When wargaming a course of action, planners identify hazards, assess the level of risk, and develop risk reduction options before they go to the next action. From this analysis, the staff considers the conditions most likely to cause mission failure and accidents.

c. For more information on command and staff responsibilities and the five-step risk assessment planning process, see Appendix F.

4-3. LOGISTICS PLANNING

a. The change in the present fighting posture to that of a United States–based *force projection* Army places greater demands on the aviation logistician. Extended supply lines, the requirement for continuous sustainment, and the need for intensive maintenance of ever–complicated systems demand a redundant and mobile logistical structure manned by expert soldiers trained in their particular skills.

b. The aviation commander must plan and monitor the logistical support to his force from predeployment through mission accomplishment and redeployment to home station. The aviation force commander can ensure the combat potential of his force only through effective use of the logistics principles.

c. Detailed logistics planning and coordination are essential to adequately support aviation operations. Aviation commanders must anticipate and forecast all logistical requirements based upon the anticipated OPTEMPO.

d. The basic rule is that the greater the operational demands—the greater the flying hours per airframe, amount of maintenance required, and amount of logistical support required. The aviation commander must consider—

- Sources and adequacy of support and distance of his force from his support base.
- Transportation availability allocated to support aviation resources—time, distance, and whether or not support will be continuous and uninterrupted.
- Communication links to supply source—wire, radio, or satellite communications (SATCOM). Is a computer link available, possible, or required?

- Are adequate ground transportation resources allocated to the aviation commander to transport the increased parts stockage required by increased OPTEMPO?

- Will roads be passable or will they be clogged with refugees significantly slowing ground resupply?

- Where will aviation fuel be obtained; how will it be transported; what is the distance from fuel site to operational area; what is the ability to test fuel for contaminates; what alternate fuels are available, etc.?

- Support facilities available in operational areas, i.e. overhead lift, machine shops.

- Special environmental considerations such as fuel, oils, and lubricants for arctic environments; protection kits for sand and dust particles.

e. The preceding items are not all encompassing; they highlight only the complexity of aviation logistics when deploying to hostile and austere environments.

4-4. MAINTENANCE SUPPORT

a. The aviation force commander must ensure that aviation maintenance support units repair and return aircraft to a serviceable condition as rapidly as possible. These tasks require aviation maintenance organizations to conduct 24–hour, continuous maintenance operations. Aviation force commanders and aviation maintenance commanders must work closely to plan and coordinate aviation equipment repair for return to service as far forward as possible.

b. Aviation support requirements are a function of the total time necessary to recover and perform essential repairs. Depending on the level of repairs required, aviation unit maintenance (AWM) or aviation intermediate maintenance (AVIM) support teams may be sent forward to repair battle-damaged aircraft. They will attempt to make those minimum repairs necessary for the aircraft to continue its mission or to enable it to be flown to a secure location where additional maintenance can be performed.

c. Downed or inoperable aircraft may need to be recovered by ground or air assets for repair operations. In either case, aviation maintenance and aircraft repairs are conducted as far forward as possible; self–recovery is preferred with aerial and ground recovery methods used as a last resort.

d. As with other areas of logistics, the commander must remember that the increased OPTEMPO will increase the demand on his maintenance assets. Maintenance crews will be required to work harder and longer, and may, as in the case of Somalia, find themselves in a situation where the length and OPTEMPO of the mission have exceeded

the ability of the maintenance units to return aircraft to a flyable status in a timely manner.

e. Under these conditions, time is the unchanging variable and only a decrease in OPTEMPO or an increase in maintenance personnel can solve the problem. If the aviation unit is deploying either to multiple operational areas or to a location a great distance from its higher level of maintenance support, then careful consideration must be given to the modularity and redundancy of specialized tools and test kits required to conduct aviation maintenance.

4-5. PERSONNEL SUPPORT

a. Personnel support is received from various division, corps, and theater–level units and elements. Primary staff coordination is provided by the theater and corps G1, the division G1/Adjutant General, and the brigade and battalion S1.

b. The aviation commander must ensure that—

(1) Combat critical personnel functions are conducted. These functions include replacement operations; strength management; personnel accounting and strength reporting; casualty management; personnel data base management; and postal operations.

(2) Other personnel actions are provided as the combat situation permits. These include promotions; evaluations; leaves and passes; identification documents; classifications; personnel assignments; and awards.

(3) Other personnel support is provided as required. This includes finance services to support local procurement and provide pay services; legal services; and chaplain activities.

4-6. ARMING AND REFUELING

a. The aviation brigade commander must ensure that the resupply of critical aviation fuel and ammunition is anticipated, planned, coordinated, and synchronized. The aviation brigade will establish FARP sites. Division and corps assets will throughput Class III and Class V to them.

b. Theater/corp utility and cargo helicopter assets also can provide emergency aerial resupply of fuel and ammunition. The aviation commander ensures rearmh-efuel locations are accessible to air and ground transportation assets. He must guard against enemy activities that may hamper rearming and refueling operations and also move periodically to ensure survivability.

4-7. GROUND VEHICLE OPERATIONS

Aviation commanders must realize that most of their support is not air–transportable. Therefore, ground wheeled vehicles are needed to support close and rear operations. These vehicles will transport much of aviation's fuel, ammunition, and maintenance support. Aviation units are high–priority targets for threat forces, whose targeting and engagement systems have become increasingly sophisticated. Aviation commanders must plan for security and protection of their assets so that operations can continue uninterrupted.

4-8. AVIATION RECONSTITUTION

a. Reconstitution is extraordinary action that commanders plan and implement to restore units to a desired level of combat effectiveness commensurate with mission requirements and available resources. Reconstitution is first and foremost an operational decision. Aviation commanders must recognize when their aviation forces are becoming combat ineffective. At that point, they must take specific actions to return forces to combat effectiveness.

b. The aviation force commander identifies the extent, distribution, and specific types of personnel and equipment losses. He also assesses residual combat capabilities. He then must coordinate with the theater, corps, or division commander and staff concerning needed replacements.

c. Two major elements of reconstitution are reorganization and regeneration. Reorganization is action to shift resources within a degraded unit to increase effectiveness. (Combining two or more attrited units to form a single mission-capable unit is one example.) Regeneration is the rebuilding of a unit through large-scale replacement of personnel, equipment, supplies, reestablishment of the chain of command, and training.